

REMARKS

With the above amendments, claims 16-20 and 23-24 have been canceled and claims 25-31 have been added. Claims 9-15 have been withdrawn from consideration by a prior restriction requirement. Thus, claims 9-15 and 25-31 are pending with claims 25-31 ready for further action on the merits. No new matter has been added by way of the new claims. Claim 25 corresponds to prior claim 16 except that the claim has been amended to recite that it is the virus particle protein gp64 that has the membrane spanning segment, which has support at page 6, lines 12-15. Claim 26 corresponds to prior claim 17. Claim 27 corresponds to prior claim 18. Claim 28 corresponds to prior claim 19. Claim 29 corresponds to prior claim 20 except that the particular primers are defined in terms of what proteins will be encoded by the amplified DNA. Moreover, in claim 29, the claim has been amended to recite that the virus particle gp64 has a membrane-spanning segment, which has support at page 6, lines 12-15. Claim 30 corresponds to prior claim 23. Claim 31 corresponds to prior claim 24. Reconsideration is respectfully requested in light of the following remarks.

The following remarks are meant to supercede the remarks from the response filed July 2, 2004.

**Examiner Interview**

Applicants' representative would like to thank the Examiner for taking the time to interview on June 30, 2004. The gist of the interview is as indicated on the Interview Summary form.

**Rejections under 35 USC §112, second paragraph**

Claims 16-24 are rejected under 35 USC §112, second paragraph as allegedly being indefinite. The Examiner asserts that it is unknown what is meant by "low to medium molecular weight". Applicants have canceled this language so the rejection is moot. Withdrawal of the rejection is warranted and respectfully requested.

Claims 20-22 are rejected because the Examiner asserts that it is unknown how those of skill in the art would choose primer sets. The Examiner asserts that Applicants have not indicated as to which specific primer can be used for amplification of which specific protein. Applicants have amended claim 20 (now claim 29) to recite what particular primer pair corresponds to the DNA that encodes the corresponding particular protein. Applicants believe that with this explanation, and the above amendments that the rejection has been obviated. Withdrawal of the rejection is warranted and respectfully requested.

Claims 20-22 have been rejected because the Examiner asserts that two primers are needed for PCR. Applicants have

amended claim 20 (now claim 29) to recite what particular primer pair corresponds to the DNA that encodes the corresponding particular protein. Applicants believe that with this amendment that the rejection has been obviated. Withdrawal of the rejection is warranted and respectfully requested.

Claim 23 (now claim 30) has been rejected for reciting "an active region". Applicants respectfully point out that at page 6, line 5 *et seq.* it is explained what is meant by an "active region". Accordingly, Applicants respectfully submit that this term is neither vague nor indefinite. Withdrawal of the rejection is warranted and respectfully requested.

**Rejections under 35 USC §112, first paragraph**

Claims 20-22 are also rejected under 35 USC §112, first paragraph as allegedly not being enabled. Claims 16, 18, 20-24 are rejected under 35 USC §112, first paragraph as allegedly not being enabled or having adequate structured description in the specification. Applicants have amended claim 20 (now claim 29) to recite particular desired proteins as well as a particular virus particle protein (*i.e.*, gp64). Applicants believe that with these amendments, one of skill in the art could make and use the invention commensurate in scope with the claimed invention without undue experimentation. Accordingly, Applicants believe that claims 20-22 are fully enabled and that

the rejection has been obviated. Withdrawal of the rejection is warranted and respectfully requested.

**Rejections under 35 USC §102**

Claims 16-17 and 23-24 are rejected under 35 USC §102(b) as being anticipated by Boublik et al. (Biotechnology, 13, pp, 1079-1084, (1995)). The Examiner asserts that the protein fusion that results from plasmid pAcGST2RGPΔC-1 in Figure 1 and the fusion protein in Figure 6 (i.e., gp64-GST) anticipates the instant invention. Applicants respectfully point out that claims 16 and claim 20 (now claims 25 and 29, respectively) have been amended to recite particular desired proteins and a particular virus particle protein. Applicants note that Boublik et al. disclose a gp64-GST fusion protein but do not disclose any of the claimed desired proteins in the currently amended claims. Moreover, Applicants respectfully point out that the gp64-GST protein as disclosed by Boublik et al. does not have a membrane-spanning segment as claimed in the instant claims. Accordingly, Applicants believe that the rejection has been obviated. Withdrawal of the rejection is warranted and respectfully requested.

Rejections under 35 USC §103

Claims 18-22 are rejected under 35 USC §103(a) as being unpatentable over Boublik et al. (Biotechnology, 13, pp. 1079-1084, (1995) in view of the common knowledge in the art of protein biochemistry and molecular biology. Applicants respectfully point out that claims 16 and 20 (now claims 25 and 29, respectively) have been amended to recite particular desired proteins and a particular virus particle protein (please note that claims 18-19 (now claims 27-28) were dependent from claim 16 (now claim 25) either directly or indirectly). The particular desired proteins are neither disclosed nor suggested by Boublik et al. Moreover, as was pointed out above, claim 16 (now claim 25) has also been amended to recite that gp64 has a membrane spanning segment, which is neither disclosed nor suggested by Boublik et al. Applicants point out that the only disclosed examples in Boublik et al. do not have any membrane spanning segment. One advantage that the instant invention possesses because of this membrane-spanning segment is that the desired protein does not drop from the particle during purification. This is not the case with the protein disclosed in Boublik et al. Other advantages are described in the written description at page 6, line 5 *et seq.*

Moreover, regarding claim 20 (now claim 29), Applicants respectfully point out that Boublik et al. fail to disclose or

suggest the particular desired proteins. Please see *In re Baird*, 29 USPQ2d 1550 (Fed. Cir. 1994) regarding using a genus to render obvious a species. In *Baird*, the court found that a genus could not render obvious a species. Likewise, any generic disclosure in Boublik et al. cannot render obvious the species as claimed in claim 20 because Boublik et al. fail to name those species.

Accordingly, Applicants assert that the Examiner has failed to make out a *prima facie* case of obviousness with regard to the 35 USC §103(a) rejection over Boublik et al. Three criteria must be met to make out a *prima facie* case of obviousness.

- 1) There must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings.
- 2) There must be a reasonable expectation of success.
- 3) The prior art reference (or references when combined) must teach or suggest all the claim limitations.

See MPEP §2142 and *In re Vaeck*, 20 USPQ2d 1438 (Fed. Cir. 1991).

In particular, the Examiner has failed to meet the third element to make a *prima facie* obviousness rejection. As was mentioned above, Boublik et al. fail to disclose or suggest a membrane-spanning segment in their fusion protein as appears in claim 16

(now claim 25) and do not disclose or suggest the desired protein species as disclosed in claim 20 (now claim 29).

Even if a proper *prima facie* obviousness rejection were made (which Applicants do not concede), the instant invention by having that membrane spanning segment possesses advantages that are not present with fusion proteins that do not have membrane spanning segments. Accordingly, Applicants believe that the rejection has been obviated. Withdrawal of the rejection is warranted and respectfully requested.

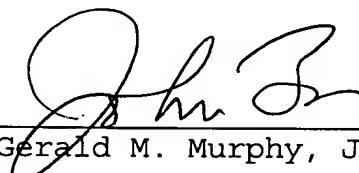
With the above remarks and amendments, it is believed that the claims, as they now stand, define patentable subject matter such that passage of the instant invention to allowance is warranted. A Notice to that effect is earnestly solicited.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact T. Benjamin Schroeder (Reg. No. 50,990) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By  #32,881  
Gerald M. Murphy, Jr., #28,977

g5  
GMM/TBS/mua  
0760-0303P

P.O. Box 747  
Falls Church, VA 22040-0747  
(703) 205-8000

Attachment(s)